

The Color of Natal Down in Passerine Birds.—Some years ago I started taking notes on the appearance of young birds when newly hatched. I found that young passerine birds differed widely, not only in size, but in color of skin and in amount, distribution and color of natal down. So far as I know, nothing has been published on this subject, except that Dr. Dwight has given the color of natal down of a good many passerine species. (The Sequence of Moults and Plumages of the Passerine Birds of New York.)

In a number of species of birds I have found the natal down white in color, among them the Red-winged Blackbird (*Agelaius p. phoeniceus*) and the Robin (*Planesticus m. migratorius*). I was rather surprised when I came to study Dr. Dwight's work to find that the down of these two species was given as mouse-gray. This year (1919) I verified my observations concerning the down of the newly-hatched Robin, and then also verified those of Dr. Dwight. My observations were all made from living young in the nest. Dr. Dwight tells me that his were made from the skins of juvenal birds, where the natal down still adhered to the feathers. A young Robin in just such a condition was brought me by one of my pupils for identification this spring. The down still adhering to the feathers was undoubtedly mouse-gray, and in great contrast to the color of the down of newly-hatched young of this species.

It seems, therefore, that either some pigment change occurs in the down, due to exposure to light and air, or what is more probable, that the dirt and dust of nest-life change the color of the down from white to gray. Whichever cause, it is evident that the down of a number of species is probably much lighter in color when the birds are hatched than examination of older specimens would indicate.—ARETAS A. SAUNDERS, *South Norwalk, Conn.*

Birds and Tent Caterpillars.—For a number of years prior to 1917 the Tent Caterpillar (*Malacosoma americana*) was unusually abundant in many parts of New England and perhaps in other places. Having been in the west until 1913 I do not know just when the scourge of these insects began, but I first noticed their great numbers at Newport, R. I., in the spring of 1913. The next few years the insects appeared to spread and increase in numbers. I noted them about Norwich, Clinton, New Haven, Bridgeport, and Norwalk, Connecticut, and in the spring of 1915 at St. Albans, Vermont, where they were even more abundant, if possible, than in Connecticut.

In the winter of 1916-17, the egg clusters of the tent caterpillar seemed as abundant as ever, and early in the spring these eggs hatched, and the nests of young caterpillars began to appear. I had made it a practise each winter and early spring to destroy the eggs or young caterpillars at every opportunity. As the spring of 1917 advanced, I soon found that my work had been done for me. Each nest that I visited, with

intention of destroying it, was empty of caterpillars, and usually had a large round hole through the web. At this time the caterpillars were still very small, less than half an inch long, and the nests were only a few inches across. The majority of people do not notice these nests until the caterpillars are full-grown, and their depredations on surrounding foliage begin to be extensive. For that reason many were of the opinion that there were none in the spring of 1917, and I have heard it stated that a fungus disease destroyed them in 1916. My observations go to show that they were still abundant early in 1917 and that they disappeared that year when only half-grown. A fungus disease may have had something to do with it, but a large part of the credit, according to my observations, goes to birds, at least in the vicinity of Norwalk.

It is generally known that this caterpillar is immune from the attacks of all birds but the Cuckoo because of its long hairs. It is my opinion that when the caterpillars are small, and the hairs decidedly shorter, that birds can eat them in case of necessity. The spring of 1917 was late and cold. After the middle of May came the great flight of warblers, thrushes and other insectivorous birds. Their arrival was coincident with the disappearance of the tent-caterpillars. Other insect life was scarce, and many birds died from cold or starvation. I actually observed a Parula Warbler (*Compsothlypis americana usneae*) and a Yellow-breasted Chat (*Icteria v. virens*) in the act of eating these caterpillars. The numerous empty nests with holes in them, such as a bird would make with its beak, were abundant evidence that what I had seen twice had taken place many times. How effectually the birds did their work was shown by the fact that only a single nest was observed in 1918 and none in 1919.—
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